

Remarks

Claims 1-32 were pending in the subject application. By way of this amendment, claims 4-7 have been amended and claims 33-36 have been added. Accordingly, claims 1-36 are currently before the Examiner for consideration.

Claims 4-7 have been rejected under 35 U.S.C. 112, first paragraph. Claim 4 has been amended to replace the term “a radially disposed electrically insulating wall” with “an insulator plug”. Support for an insulator plug can be found in the specification at least at page 4, lines 17-20 and page 8, lines 15-18. In accordance with this amendment, claims 5, 6, and 7 have also been amended to replace “insulating wall” with “insulating plug”. Accordingly, the applicant respectfully requests reconsideration and withdrawal of the rejection of claims 4-7 under 35 U.S.C. §112, first paragraph.

Claims 1-2 have been rejected under 35 U.S.C. 112, second paragraph. The applicant asserts that support for the limitation “inner periphery” of claims 1 and 2 can be found at least at page 2, lines 1-2. Claim 1, line 3 and claim 2, line 5 have been amended to add the limitation “with an inner periphery”. Accordingly, there is now antecedent basis for this limitation in the claims. Claim 1, line 7, has been amended such that the limitation “a cylindrical compression cap with a closed end apertured” now reads “a cylindrical compression cap with an end wall apertured”. Claim 2, line 11 has been amended such that the limitation “a cylindrical compression cap having a closed end apertured” now reads “a cylindrical compression cap having an end wall apertured”. Accordingly, the applicant respectfully requests reconsideration and withdrawal of the rejection of claims 1-2 under 35 U.S.C. §112, second paragraph.

Claim 1, line 8, has been amended such that the limitation “a side wall sized at its outer periphery for engaging” now reads “a side wall with an outer periphery sized for engaging” in order to provide antecedent basis for “an outer periphery”. Claim 2, lines 12-13, has been amended such that the limitation “a side wall sized at its outer periphery for engaging” now reads “a side wall with an outer periphery sized for engaging” in order to provide antecedent basis for “an outer periphery”.

Claims 1-22 and 25-32 have been rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 6-8 of McCarthy (U.S. Reissued Patent No. 36,700). The Office Action states that the conflicting claims are not patentably distinct from each other because McCarthy '700 discloses the claimed invention except for a cylindrical compression cap having a sidewall sized at its outer periphery for engaging an inner periphery of a housing, and it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a cylindrical compression cap having a sidewall sized at its outer periphery for engaging an inner periphery of a housing. The applicant respectfully traverses this grounds for rejection and refers to the remarks below with regard to the rejections of claims 1-22 and 1-25 under 35 U.S.C. §103(a).

Claims 23-24 have been rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. reissue Patent No. 36,700 in view of Gaver, Jr. *et al.* (U.S. Patent No. 5,066,248). The Office Action states that McCarthy '700 discloses the claimed invention as described above except for a beveled ring and a compression ring, and Gaver, Jr. *et al.* discloses a coaxial cable connector (10) the use of a ring (20) (see Figures 1-8), and, thus, it would have been obvious with ordinary skill in the art to modify the electrical connector of McCarthy '700 by including a ring as taught in Gaver, Jr. *et al.* to improve the connection between the connector and the cable. The applicant respectfully traverses this grounds for a rejection, and refers to the remarks below with respect to the rejection of claims 23-24 under 35 U.S.C. §103(a).

Claims 1-22 and 25-32 have been rejected under 35 U.S.C. 103(a) as being unpatentable over McCarthy (U.S. Reissued Patent No. 36,700). The applicant respectfully traverses this grounds for rejection. The Office Action states that with regard to claims 1-2, 4-12, 15-18, 22, and 31-32, McCarthy '700 discloses an electrical connector (10), comprising: a housing (16) having a first end and an axial bore (20); at least one clamping arm (27) in the bore (20) of the housing (16) having a first end (28); and a cylindrical compression cap (30) apertured to receive an electrical coaxial cable (11) having a sidewall sized at its inner periphery for engaging an outer periphery of the housing (16), wherein once

said first end (28) of said at least one clamping arm (27) penetrates an outer insulation layer (15) of the electrical cable (11) and the end of the electrical cable (11) being inserted into said first end of said housing (16), said cap (30) can be inserted into said first end of said housing (16) such that at least one clamping arm (27) is secured in place (see Figs. 1-7).

However, the McCarthy '700 reference does not disclose at least one clamping arm (27) in the bore (20) of the housing (16), nor does the McCarty '700 reference disclose a cylindrical compression cap (30) apertured to receive an electrical coaxial cable (11) having a sidewall sized at its inner periphery for engaging an outer periphery of the housing (16), wherein once said first end (28) of said at least one clamping arm (27) penetrates an outer insulation later (15) of the electrical cable (11) and the end of the electrical cable (11) being inserted into said first end of said housing (16), said cap (30) can be inserted into said first end of said housing (16) such that at least one clamping arm (27) is secured in place. Rather, the clamping arms disclosed in the McCarthy '700 reference extend from the housing and are not in the bore. Furthermore, the cap (30) disclosed by the McCarthy '700 reference is not a compression cap and is not inserted into the housing.

The Office Action states that McCarthy discloses the claimed invention except for a cylindrical compression cap having a sidewall sized at its outer periphery for engaging an inner periphery of a housing, and that it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a cylindrical compression cap having a sidewall sized at its outer periphery for engaging an inner periphery of housing. However, the McCarthy '700 reference does not disclose a cylindrical compression cap (30) apertured to receive an electrical coaxial cable (11) having a sidewall sized at its outer periphery for engaging an inner periphery of the housing; and the McCarthy reference does not disclose a cap (30) which can be inserted into the first end of the housing (16). Rather, the cap (30) disclosed in the McCarthy '700 reference attaches to the outer periphery of the housing, and does not undergo compression during the process of attaching to the housing. In contrast, as taught at least at page 7, lines 11-16, with respect to a specific embodiment of the subject invention, the side wall of cap 200 can be caused to move inwardly by the process of inserting cap 200 thereby applying clamping pressure to outer wall 22 of the cable

20 to further mechanically secure the cable in place in the connector. Accordingly, the applicant asserts that a *prima facie* case of obviousness has not been presented with respect to claims 1-2, 4-12, 15-18, 22, and 31-32. Therefore, the applicant respectfully requests reconsideration and withdrawal of the rejection of claims 1-2, 4-12, 15-18, 22, and 31-32 under 35 U.S.C. §103(a).

The Office Action states that with regard to claim 3, McCarthy '700 reference discloses the pointed end (28) of said conductive clamp (27) being ramp shaped and the end of the side wall of said cylindrical compression cap (30) being complimentarily ramp shaped so that upon mutual engagement longitudinally along the axis of the said housing (16), the pointed end of said conductive clamp (27) being driven radially toward the axis of said housing (16) (see Figs. 1-7). However, as discussed above with respect to claim 2, from which claim 3 depends, the McCarthy '700 reference does not disclose at least one clamping arm in the bore of the housing; the McCarthy '700 reference does not disclose a cylindrical compression cap apertured to receive an electrical coaxial cable having a sidewall sized at its outer periphery for engaging an inner periphery of the housing; and the McCarthy '700 reference does not disclose a cap which can be inserted into the first end of the housing. Furthermore, the McCarthy reference does not disclose an electrically conductive clamp wherein the pointed end of said conductive clamp is ramp shaped and the end of the side wall of the cylindrical compression cap is complimentarily ramp shaped. Rather, annular wedging portion 32 of the cap member 30 disclosed in the McCarthy '700 reference appears to contact a non-ramp shaped portion of the ends of clamp 27. Accordingly, the applicant asserts that a *prima facie* case of obviousness has not been presented with respect to claim 3.

The Office Action states that with regard to claim 13, McCarthy '700 discloses the first end of said at least one clamping arm (27) having a beveled edge, wherein said first end of said at least one clamping arm (27) is caused to penetrate the outer insulation layer (15) by a tool which pushes on the beveled edge while the end of the insulated electrical conductor (11) is inserted into said first end of the housing (16) (see Figs. 1-7). However, as claimed in claim 12, from which claim 13 depends, the invention claimed in claim 13

comprises “a cap for insertion into said first end of said housing...”. In contrast, the McCarthy ‘700 reference does not disclose a cap for insertion into the first end of the housing after the end of the insulated electrical conductor is inserted into the first end of the housing. Furthermore, the McCarthy ‘700 reference does not disclose at least one clamping arm having a first end which has a beveled edge wherein the first end is caused to penetrate the outer insulation layer by a tool which pushes on the beveled edge. In contrast, pushing on the beveled edge of the clamping arm disclosed in the McCarthy ‘700 reference would likely cause the clamping arm away from the outer insulation. Accordingly, the applicant asserts that a *prima facie* case of obviousness has not been presented with respect to claim 13.

The Office Action states that with regard to Claims 14 and 20, McCarthy ‘700 discloses the first end of said at least one clamping arm (27) having a beveled edge, wherein as said cap (30) is inserted into the first end of said housing (16) a beveled edge of said cap (30) pushes the beveled edge of said at least one clamping arm (27) such as to cause the first end of said at least one clamping arm (27) to penetrate into the outer insulation layer (15) of the insulated conductor (11) (see Figures 1-7). However, as claimed in claim 12, from which claims 14 and 20 depend, the invention claimed in claims 14 and 20 comprises “a cap for insertion into said first end of said housing...”. In contrast, the McCarthy ‘700 reference does not disclose a cap for insertion into the first end of the housing after the end of the insulated electrical conductor is inserted into the first end of the housing. Furthermore, the McCarthy ‘700 reference does not disclose at least one clamping arm having a first end which has a beveled edge wherein as the cap is inserted into the first end of the housing a beveled edge of the cap pushes the beveled edge of the at least one clamping arm such as to cause the first end of the at least one clamping arm to penetrate into the outer insulation layer. Accordingly, the applicant asserts that a *prima facie* case of obviousness has not been presented with respect to claims 14 and 20.

The Office Action states that with regard to claim 25, McCarthy ‘700 discloses the housing (16) being adapted to receive the end of the insulated electrical conductor (11) which has a portion of the inner insulation layer (13) and center conductor (12) protruding from an

otherwise flush end of the insulated electrical conductor (11), wherein the portion of the center conductor (12) protrudes from the protruding portion of the inner insulation layer (13) such that the protruding portion of the inner insulation layer (13) acts to electrically insulate the center conductor (12) from the housing (16) and the protruding center conductor protrudes into a second end of the connector (10) (see Figures 1-7). The applicant submits that the McCarthy '700 reference does not disclose a housing being adopted to receive the end of the insulated electrical conductor which has a portion of the inner insulation layer and center conductor protruding from an otherwise flush end of the insulated electrical conductor, wherein the portion of the center conductor protrudes from the protruding portion of the inner insulation layer such that the protruding portion of the inner insulation layer acts to electrically insulate the center conductor from the housing and the protruding center conductor protrudes into a second end of the connector in any of Figures 1-7. Rather, each embodiment disclosed in Figures 1-7 of the McCarthy '700 reference incorporates a connector prong or pin 21 mounted to an insulated base having a prong 23 extending therefrom. Pin 21 is designed to contact the center conductor 12 of the coaxial cable and prong 23 extends into bore 24. Accordingly, the applicant asserts that a *prima facie* case of obviousness has not been presented with respect to claim 25.

The Office Action states that with regard to claim 26, McCarthy '700 discloses an insulation section (22) attached to the housing (16), wherein the insulation section has an aperture, and where the insulation section electrically insulates the center conductor (12) from the housing (16) (see Figures 1-7). However, claim 26 is directed to an electrical connector comprising an insulation section attached to the housing wherein the insulation section has an aperture for receiving a protruding center conductor of the insulated electrical conductor. In contrast, the insulation section 22 of the embodiments disclosed in Figures 1-7 of the McCarthy '700 reference does not have an aperture for receiving a protruding center conductor, as insulation section 22 has prong or pin 21 mounted therethrough. Accordingly, the applicant asserts that a *prima facie* case of obviousness has not been presented with respect to claim 26.

The Office Action states that with regard to Claim 28, McCarthy '700 discloses wherein the pin (21) has a hollow portion protruding into the first end of the connector (10) (see Figures 1-7). However, the pin 21 disclosed in Figures 1-7 of the McCarthy '700 reference does not have a hollow portion protruding into the first end of the connector 10 for receiving a solid center conductor. Rather, pin 21 is solid and is adapted to be driven into the center conductor (see column 3, lines 61-67) or to be directed adjacent to the center conductor (see column 4, lines 45-50). Accordingly, the applicant asserts that a *prima facie* case of obviousness has not been presented with respect to claim 28.

The Office Action states that with regard to Claim 29, McCarthy '700 discloses the hollow portion of the pin (21) has at least one slit allowing the hollow portion to expand as a solid center conductor enters the hollow portion (see Figures 1-7). However, as discussed above with respect to claim 28, the pin 21 disclosed in Figures 1-7 of the McCarthy '700 reference does not have a hollow portion protruding into the first end of the connector 10 for receiving a solid center conductor. Therefore, the pin 21 disclosed in Figures 1-7 of the McCarthy '700 reference does not have a hollow portion wherein the hollow portion of the pin has at least one slit allowing the hollow portion to expand as a solid center conductor enters the hollow portion. Accordingly, the applicant asserts that a *prima facie* case of obviousness has not been presented with respect to claim 29.

Claims 23-24 have been rejected under 35 U.S.C. 103(a) as being unpatentable over McCarthy (U.S. Reissued Patent No. 36,700) in view of Gaver, Jr. *et al.* (U.S. Patent No. 5,066,248). The Office Action states that with regard to Claim 30, McCarthy '700 discloses the claimed invention as described above except for a beveled ring and a compression ring. The applicant assumes the Examiner intended to refer to claim 23 instead of claim 30 and will therefore address claim 23. The applicant submits that the McCarthy '700 reference does not disclose the invention as claimed in claim 23 except for a beveled ring and a compression ring. In particular, neither the McCarthy '700 reference nor the Gaver Jr. *et al.* reference disclose an electrical connector having a cap for insertion into the first end of the housing after an end of the insulated electrical conductor is inserted into the first end of the housing. Furthermore, neither the McCarthy '700 reference nor the Graver Jr. *et al.*

reference disclose at least one clamping arm positioned within the housing such that once the end of the insulated electrical conductor is inserted into the housing, the insertion of the cap into the first end of the housing causes the first end of the at least one clamping arm to penetrate the outer insulation layer of the insulated electrical conductor.

The Office Action states that Gaver, Jr. *et al.* discloses a coaxial cabled connector (10) the use of a ring (20) (see Figures 1-8) and, thus, it would have been with ordinary skill in the art to modify the electrical connector of McCarthy '700 by including a ring as taught in Gaver, Jr. *et al.* to improve the connection between the connector and the cable. However, the ring 20 disclosed in Gaver Jr. *et al.* is not beveled. In addition, neither the McCarthy '700 reference nor the Gaver Jr. *et al.* reference discloses a compression ring, and neither the McCarthy reference nor the Gaver Jr. *et al.* reference discloses an electrical connector having a beveled ring and a compression ring, wherein inserting the cap into the first end of the housing causes the cap to push the compression ring such that the compression ring contacts and pushes a first beveled edge of the beveled ring such that a second beveled edge of the beveled ring engages said at least one clamping arm causing the first end of said at least one clamping arm to penetrate the outer insulation layer and make electrical contact with the outer conductor of the insulated electrical conductor. With respect to the subject invention as claimed in claim 24, neither the McCarthy '700 reference nor the Graver Jr. *et al.* reference disclose a connector wherein the housing has a groove adapted to receive a discrete protrusion on the beveled ring. Accordingly, the applicant asserts that a *prima facie* case of obviousness has not been presented with respect to claims 23 and 24.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

The applicant believes that, in view of the above amendments to the claims and the accompanying remarks, the current claims are now in condition for allowance. Such action is respectfully requested.

The Commissioner is hereby authorized to charge any fees under 37 CFR 1.16 or 1.17 as required by this paper to Deposit Account 19-0065.

The applicant invites the Examiner to call the undersigned if clarification is needed on any of this response, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,



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Attachments: Petition and Fee for a three-month Extension of Time

VERSION WITH MARKINGS TO SHOW CHANGES MADEIn the claims:

Claims 1-2, and 4-7 have been amended as follows:

1 1. (Amended) An electrical connector for coupling to an electrical cable having a
2 center conductor and an outer insulation layer, comprising:

3 a housing having an axial bore therein with an inner periphery for receiving an
4 electrical cable;

5 an electrically conductive clamp in the bore of said housing at the inner periphery
6 thereof, said electrically conductive clamp having a pointed end shaped and sized for driving
7 into the outer insulated layer of an electrical cable; and

8 a cylindrical compression cap with ~~a closed end~~ an end wall apertured to receive an
9 electrical cable in passage to said housing and a side wall ~~sized at its~~ with an outer periphery
10 ~~for~~ sized for engaging the inner periphery of said housing and shaped at the open end of said
11 side wall for engaging the pointed end of said electrically conductive clamp to drive the
12 pointed end thereof toward the axis of the bore in said housing thereby to mechanically
13 connect an electrical cable to said housing.

1 2. (Amended) An electrical connector for coupling to an electrical cable of the
2 coaxial type having a center conductor enclosed in an inner insulation layer and a conductive
3 sheath around the inner insulation layer and an outer insulation layer overlying the
4 conductive sheath, comprising:

5 a housing having an axial bore therein with an inner periphery for receiving a coaxial
6 cable in one end thereof, said housing being electrically conductive;

7 an electrically conductive clamp in the bore of said housing and electrically
8 connected to said housing at the inner periphery thereof, said electrically conductive clamp
9 having a pointed end shaped and sized for driving into the outer insulated layer of the coaxial
10 cable to engage the conductive sheath thereof, and

11 a cylindrical compression cap having ~~a closed end~~ ~~an end wall~~ apertured to receive
12 a coaxial cable in passage to said electrically conductive housing and having a side wall sized
13 at its outer periphery ~~for~~ with an outer periphery sized for engaging the inner periphery of
14 said housing and shaped at the open end of the side wall for engaging the pointed end of said
15 electrically conductive clamp to drive the pointed end thereof toward the axis of the bore in
16 said housing thereby to mechanically connect a coaxial cable to said housing and to
17 electrically connect the conductive sheath of a coaxial cable to said housing through said
18 conductive clamp.

1 4. The electrical connector of claim 3 wherein said housing includes ~~a radially~~
2 disposed electrically insulating ~~wall~~ an insulator plug terminating the bore therein and acting
3 as a stop for a coaxial cable received in the bore.

1 5. The electrical connector of claim 4 wherein said insulating ~~wall~~ plug includes a
2 center aperture for supporting an electrical conductor insulated from said electrically
3 conductive housing.

1 6. The electrical connector of claim 5 wherein the center aperture of said insulating
2 ~~wall~~ plug is adapted to receive and support the center conductor of a coaxial cable.

1 7. The electrical connector of claim 5 wherein the center aperture of said insulating
2 ~~wall~~ plug is adapted to receive and support a conductive prong projecting into the bore of
3 said housing for making electrical contact with the center conductor of a coaxial cable.